FISCAL RESEARCH CENTER

SELECTED FISCAL AND ECONOMIC IMPLICATIONS OF AGING

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FRC Report No. 167
October 2007

Georgia State University | ANDREW YOUNG SCHOOL OF POLICY STUDIES

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I. Introduction

The aging of the U.S. population is by this time no surprise to most people. Georgia is a relatively young state—the median age in Georgia in 2005 was 34.3 while for the U.S. it was 36.4. However, Georgia will gray at a similar rate as the average U.S. state over the next 20 years. This means that Georgia will remain relatively young, but Georgia's rapid overall population growth means that Georgia will be gaining a large number of elderly residents in absolute terms. The U.S. Bureau of the Census projects that between 2000 and 2010, Georgia will add about 200,000 elderly residents (65 and older) to its population ranks, and between 2010 and 2020, the state will add another 430,000 elderly residents to its population base.

The implications of the growth in the elderly population are far-reaching. This report was originally prepared for a conference "Georgia's Aging Population: What to Expect and How to Cope," held on September 27, 2007 and sponsored by the Andrew Young School of Policy Studies. The other papers, prepared for the conference discussed the implications for livable communities and for long-term health care. In this report, we discuss the interaction between the aging of Georgia's population and selected fiscal and economic issues of the state. The policy issues that we focus on in this report are as follows:

- The implications of the growth in the elderly population on the labor force;
- The implications for the public sector work force and steps and policies that government agencies may consider to address these issues;
- The implications for state and local government revenue given changes in income and the tax treatment of the elderly and policy recommendations;
- The implications for the level and cost of public services from an aging population, including health and transportation; and
- Other economic issues, including funding of pension systems, housing, and voter participation.

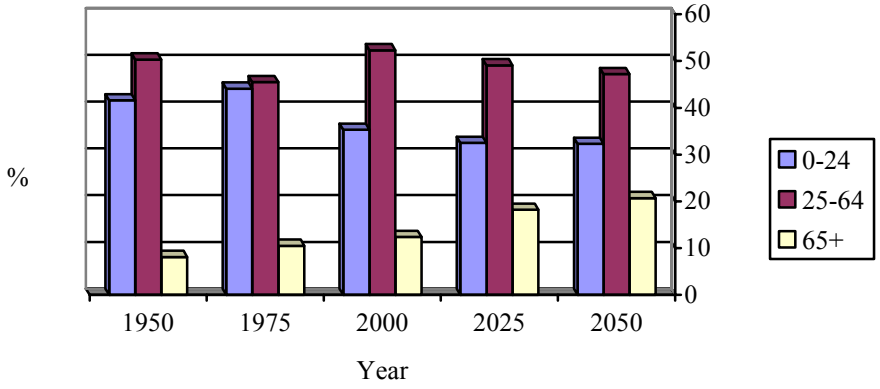
The next section of this report summarizes Georgia's demographics to set the stage for discussing the economic and financial implications of those trends. Section II considers the effects of an aging population on the state's economy, while section III focuses on fiscal issues. Section IV provides a summary.

II. State and National Aging Trends

Over the next fifty years, the age distribution of the U.S. population will change dramatically. As the baby boomers (those born between 1946 and 1964) continue to age, an increasingly higher proportion of Americans will be in retirement, which has implications for the labor force and could lead to strains on social services and tax revenues.

In 1950, about 8 percent of Americans were over the age of 65. As shown in Figure 1, that number has increased steadily to around 12 percent today. However, U.S Bureau of the Census predicts that growth in the number of elderly Americans after 2010 will increase rapidly as the first baby boomers enter retirement. By 2020, over 16 percent of Americans will be of retirement age (65 years or older), and by 2040 that number will continue to rise to over one fifth of Americans. In contrast, Figure 1 shows that the percentage of working-age Americans will begin to steady decline at a relatively slow rate from about 50 percent currently to about 46 percent in 2050.

FIGURE 1. POPULATION DISTRIBUTION BY AGE 1950-2050

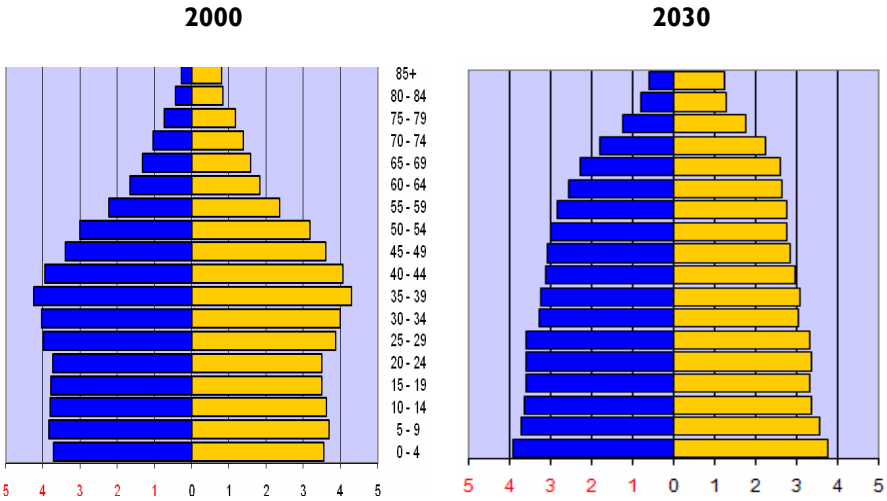


In order to produce this demographic shift, growth rates in the number of specific older Americans will increase substantially. In the five decades from 2000 to 2050, the fastest growing age cohort will be those 85 years of age and older (the "oldest-old"), except between 2010 and 2020, where the cohort 65-84 years of age will grow fastest. Today, less than two percent of the population is over the age of

85, but by 2050 projections suggest that around five percent of the U.S population will be 85 years of age or older.

The state of Georgia is facing similar demographic trends. The aging trend is very apparent in the U.S. Census "population pyramids" (Figure 2). The first graph shows the age distribution in Georgia for 2000 and the second for 2030.

FIGURE 2. POPULATION PYRAMIDS OF GEORGIA PERCENT OF TOTAL POPULATION



Source: U.S. Census.

Note: males are on the left and females on the right.

A. The Elderly and the Economy

The growth in the number of elderly population can impact the economy in various ways. One of the most significant is the effect on the size of the labor force; elderly tend to be less engaged in the labor force, thus reducing the number of eligible workers. As individuals age, the level, composition, and distribution of income changes. In general, the elderly are increasingly financially secure in retirement. However, there are some elderly whose financial resources are much more limited, and they in turn may demand more services of non-profits and governments. Elderly have different spending patterns, so an aging population will change the types of goods and services produced in the economy. Pension funds are a large part of the

national and international financial market, so investment and distribution activities around pension funds are critical to the stability of some financial markets.

B. Aging and the Labor Force

With the graying of the population, it is quite natural to expect growing numbers of retirees than witnessed in the past, as well as a greater percentage of the total population consisting of retirees. This suggests a smaller labor force relative to the size of the population. However, the growth of the economy depends in part on a growing labor force. In this section we first discuss what has happened over time to the age at which people retire and the implications of a growing aging population for the labor force. We then discuss policies that are designed to address the labor shortage.

There are several ways to measure "retirement," including the end of a career job, receipt of Social Security retirement benefits or other pensions, and/or a "permanent" exit from the labor force (Gendell 2001). However, because it is the easiest to measure, most studies concerned with the changing age at which people retire use labor force participation rates of older persons as a measure of retirement.[1]

The consensus in the literature is that the age at which people retire had declined steadily from the late nineteenth century to the middle of the 1980s. However, in the mid-1980s retirement ages and labor force participation rates of older people began to level off (Table 1). Many researchers have argued that since then the retirement age has been increasing (Quinn 1999, Johnson 2002, Aging Stats 2006), labor force participation rates of older people have started to increase after decades of decline. However, there are some researchers, such as Costa (1999) and Friedberg (2007), who argue that recent increases in participation may be cyclical blips, and it is too early to determine if a structural change has actually occurred or if instead the retirement age and participation rates are likely to begin decreasing again in the near future. Labor force participation declines with age. For example, for males between the ages of 55 and 61, 74.7 percent are in the labor force. But participation falls by more than half for those between 65 and 69.

[1] Labor force participation rate is the ratio of the number of employed individuals within an age group divided by the population of that age group.

TABLE 1. LABOR FORCE PARTICIPATION OF PERSONS AGES 55 AND OVER BY AGE GROUP AND SEX, 1963-2005

Year	Men				Women			
	55 to 61	62 to 64	65 to 69	70 years and over	55 to 61	62 to 64	65 to 69	70 years and over
1963	89.9	75.8	40.9	20.8	43.7	28.8	16.5	5.9
1964	89.5	74.6	42.6	19.5	44.5	28.5	17.5	6.2
1965	88.8	73.2	43.0	19.1	45.3	29.5	17.4	6.1
1966	88.6	73.0	42.7	17.9	45.5	31.6	17.0	5.8
1967	88.5	72.7	43.4	17.6	46.4	31.5	17.0	5.8
1968	88.4	72.6	43.1	17.9	46.2	32.1	17.0	5.8
1969	88.0	70.2	42.3	18.0	47.3	31.6	17.3	6.1
1970	87.7	69.4	41.6	17.6	47.0	32.3	17.3	5.7
1971	86.9	68.4	39.4	16.9	47.0	31.7	17.0	5.6
1972	85.6	66.3	36.8	16.6	46.4	30.9	17.0	5.4
1973	84.0	62.4	34.1	15.6	45.7	29.2	15.9	5.3
1974	83.4	60.8	32.9	15.5	45.3	28.9	14.4	4.8
1975	81.9	58.6	31.7	15.0	45.6	28.9	14.5	4.8
1976	81.1	56.1	29.3	14.2	45.9	28.3	14.9	4.6
1977	80.9	54.6	29.4	13.9	45.7	28.5	14.5	4.6
1978	80.3	54.0	30.1	14.2	46.2	28.5	14.9	4.8
1979	79.5	54.3	29.6	13.8	46.6	28.8	15.3	4.6
1980	79.1	52.6	28.5	13.1	46.1	28.5	15.1	4.5
1981	78.4	49.4	27.8	12.5	46.6	27.6	14.9	4.6
1982	78.5	48.0	26.9	12.2	46.9	28.5	14.9	4.5
1983	77.7	47.7	26.1	12.2	46.4	29.1	14.7	4.5
1984	76.9	47.5	24.6	11.4	47.1	28.8	14.2	4.4
1985	76.6	46.1	24.4	10.5	47.4	28.7	13.5	4.3
1986	75.8	45.8	25.0	10.4	48.1	28.5	14.3	4.1
1987	76.3	46.0	25.8	10.5	48.9	27.8	14.3	4.1
1988	75.8	45.4	25.8	10.9	49.9	28.5	15.4	4.4
1989	76.3	45.3	26.1	10.9	51.4	30.3	16.4	4.6
1990	76.7	46.5	26.0	10.7	51.7	30.7	17.0	4.7
1991	76.1	45.5	25.1	10.5	52.1	29.3	17.0	4.7
1992	75.7	46.2	26.0	10.7	53.6	30.5	16.2	4.8
1993	74.9	46.1	25.4	10.3	53.8	31.7	16.1	4.7
1994	73.8	45.1	26.8	11.7	55.5	33.1	17.9	5.5
1995	74.3	45.0	27.0	11.6	55.9	32.5	17.5	5.3
1996	74.8	45.7	27.5	11.5	56.4	31.8	17.2	5.2
1997	75.4	46.2	28.4	11.6	57.3	33.6	17.6	5.1
1998	75.5	47.3	28.0	11.1	57.6	33.3	17.8	5.2
1999	75.4	46.9	28.5	11.7	57.9	33.7	18.4	5.5
2000	74.3	47.0	30.3	12.0	58.3	34.1	19.5	5.8
2001	74.9	48.2	30.2	12.1	58.9	36.7	20.0	5.9
2002	75.4	50.4	32.2	11.5	61.1	37.6	20.7	6.0
2003	74.9	49.5	32.8	12.3	62.5	38.6	22.7	6.4
2004	74.4	50.8	32.6	12.8	62.1	38.7	23.3	6.7
2005	74.7	52.5	33.6	13.5	62.7	40.0	23.7	7.1

NOTE: Data for 1994 and later years are not strictly comparable with data for 1993 and earlier years due to a redesign of the survey and methodology of the CPS.
SOURCE: Current Population Survey (CPS), Bureau of Labor Statistics.

Taking a pension (which includes Social Security, private or public employer pensions, and/or benefits from private retirement accounts such as IRAs) does not mean the individual leaves the work force. After falling through the mid-1980s, labor force participation among pension recipients has increased in the last 20 years or so. Furthermore, the percentage of pension recipients who work part-time increased for younger pensioners (55-61 and 62-64), slightly decreased for pensioners age 65 to 69, and has been more or less stable for pensioners age 70 and over. The story of state and local government pensioners is similar. For those between 65 and 69 years of age, 85 percent have pensions, and about 27 percent of those are employed (although) only 15 percent of government pensioners are employed.

The literature suggests that "traditional retirements are a thing of the past" (Cahill et al. 2006). Workers more and more are taking on "bridge jobs" before exiting the labor force completely including many workers who go back to work after leaving the labor (Maestas 2005).

Without any change in labor force participation of the elderly, the aging of the work force will reduce the size of the labor force relative to the size of the population. This raises several questions, including:

- What are the implications of the aging of the workforce on employers?
- Will employers be able to replace the retired workers with younger workers?
- Are employers losing workers with long seniority?

A host of recent research has suggested that the aging workforce and impending retirements of millions of older workers will pose serious challenges for employers.[2] The GAO (2005b) has suggested that there "may not be enough younger workers in the labor market to replace [the retirees]." Some specific occupations and regions of the country may experience extreme shortages (Pitt-Catshouphes and Myer 2005), and a report by Ernst & Young (2006) finds that the public sector workforce may be especially hard hit. Nearly 20 percent of state and local government

[2] See for example GAO (2001), GAO (2005b), Ernst & Young (2006), Pitt-Catshouphes and Myer (2005), Eschtruth et al (2007), and Kiyonaga (2004)

employees were 55 and older in 2004 compared to 14 percent of private sector workers. However, despite the apparent consensus that worker shortages are inevitable, a recent survey conducted by the Center for Retirement Research at Boston College found that "employers are lukewarm about retaining older workers" (Eschtruth et al. 2007).

This national shortage of workers will mean that employers will find it harder and more costly to replace workers who retire and to retain existing workers. Organizations that do not develop plans to address this issue will find it even more difficult to secure the workers they need. Nationally, the U.S. can address this issue by increasing labor force participation of both the elderly and non-elderly and by allowing increased immigration of workers. But what can organizations, including nonprofits and government agencies, do to address the issue? There are several things that organizations are doing.

1. Workforce and Succession Planning (WFSP)

A first step in addressing the issue of an aging workforce is for an organization to develop a workforce and succession plan. Essentially, there are five steps (The International Personnel Management Association 2002):

- Analyzing the current workforce;
- Identifying the workforce needed for the future;
- Comparing the present workforce to future needs to identify gaps;
- Preparing plans to eliminate these gaps and build the workforce needed in the future;
- Evaluating the process and results to ensure that the workforce planning model remains valid, and organizational objectives are being met.

"WFSP attempts to match the available supply of labor with the forecasted demand in light of the strategic plan of the organization" (Pynes 2004). Where gaps exist, strategies should be devised to recruit, develop, and retain employees with the needed knowledge, skills, and abilities to carry out the mission of the organization.[3]

[3] For a discussion of WFSP see Pynes 2004, Lynn 2001, Helton and Soubik 2004, International Personnel Management Association 2002.

2. Restructuring Pension Plans from Defined Benefit to Defined Contribution and Other Plans

The structure of many pension plans provides strong incentives for older workers to retire or change employers.[4] Defined benefit plans, such as the Georgia State Teacher Retirement Program, provide a specific benefit at retirement for each eligible employee. Defined contribution plans specify the amount of contributions to be made by the employer toward an employee's retirement account: the retirement benefits provided depend on the amount of the contributions and the net gains in the account.

Defined benefit plans often give workers strong financial incentives to retire earlier than they might otherwise because benefit accrual is often very low or even negative once the employee reaches the plan's full retirement age. This result occurs because working another year means the individual forgoes a year of retirement benefits, but often does not increase the benefits in future years by enough to make up for the loss. Defined contribution plans, hybrids, and other variants can alter the incentives and encourage older employees to work longer.

One type of hybrid pension plan is a cash balance plan, which is a defined benefit plan that defines the promised benefit in terms of a stated account balance. In a typical cash balance plan, a participant's account is credited each year with a pay credit (such as 5 percent of compensation) and an interest credit. Increases and decreases in the value of the plan's investments do not directly affect the benefit amounts promised to participants. Thus, the investment risks and rewards on plan assets are borne solely by the employer.

One of the main benefits for employers of using hybrid pension plans is that they provide incentives for older workers to continue working relative to traditional defined benefit plans. They do so by both retaining workers with long seniority and recruiting older workers from outside the organization.[5]

Another pension reform option is a Deferred Retirement Option Plan (DROP). DROPs have become increasingly popular in the public sector in recent

[4] For a discussion see Johnson and Steuerle 2003, GAO 2001, GAO 2005a, and U.S. Department of Labor links.

[5] Among others, Johnson and Steuerle (2003) provide a good discussion of how defined benefit plans reduce work incentives for older employees and how hybrids seek to improve the incentives.

years, especially for teachers, firefighters and law enforcement. A DROP is a defined benefit pension plan that contains special features that allow individuals who have reached retirement age to begin receiving pension benefits while they continue to work and receive a salary. This is generally done by depositing the pension payment into a private account in the individual's name that the individual will receive lump-sum upon terminating employment. The result is that working another year does not decrease an individual's pension wealth like a defined benefit plan does.[6]

3. Other Practices

There are a host of other actions that organizations might consider in order to retain workers who might otherwise retire or to address the loss of valuable human capital and institutional knowledge. Nonstandard work arrangements (NSWAs) are those other than full-time, permanent positions. NSWAs appeal to workers primarily because they allow greater flexibility. For older workers especially, NSWAs often provide a means to stay active and involved without the rigors of full-time work.[7] An example is Phased Retirement/Gradual Retirement, which is a general process that allows workers nearing retirement to more smoothly transition from a full-time career job to retirement rather than undergoing an abrupt change from work to retirement. As a part of phased retirement workers often take on bridge jobs that involve reduced responsibilities and/or fewer hours worked.

When organizations lose workers, they often also lose valuable knowledge that is not easily obtained by new workers. Therefore, knowledge transfer from recent retirees and older workers to younger workers is increasingly important for public sector organizations. Liebowitz (2004) identifies several strategies to facilitate knowledge transfer many of which have been implemented to various degrees within NASA. Some examples are:

- *Emeritus Programs:* Recently retired employees can keep an office, phone, and e-mail address at their organization to encourage them to come in periodically and continue to interact with younger workers to facilitate knowledge transfer;

[6] See GAO (2001) for a fuller discussion of DROPs.
[7] For a discussion see Mastracci and Thompson 2005, Partnership 2007, and Liebowitz 2004.

- *Mentoring Programs:* Older and recently retired employees can serve as mentors in a formal mentoring program in their organization;

- *Knowledge Sharing Forums:* Experienced individuals meet in a small group, once a month or so, with up-and-coming individuals to share stories, lessons learned, and insights.

While it may be possible to retain older workers, it will be necessary to replace a growing number of retirees. There are many things an organization can do to improve its ability to recruit, retain, and develop younger workers, including:

- *Student Employment and Internships Programs* that encourage quality interns and student employees to seek full-time permanent employment upon completing their education;

- *More Creative College Recruiting,* including getting information to students by building relationships with and providing information to college faculty and advisors;

- *Student Loan Forgiveness and Tuition Reimbursement Programs,* which students report are an effective recruitment tool, and cancelable loan programs for students preparing for certain occupations such as teachers, nurses, social workers, and others.

C. Aging and Other Economic Issues

In addition to the important impact that an aging population has on the labor force and therefore the entire economy, an aging population has several other implications for the economy.

- *Consumption Patterns:* The elderly consume a different bundle of goods and services. For example, they have greater health care costs and consume more of other services as well. This has implications for the types of businesses that are needed, but also affects the base of the sales tax. The implications for the sales tax are discussed below.

- *Housing Patterns:* While the elderly express a preference for staying in their existing homes, they eventually move into smaller housing units. In addition to the implication for the housing market, this affects the property tax base. The effect on housing is discussed in the white paper on livable communities, while the implication for the property tax is discussed below.

- *Pension funding:* Associated with aging is a change in the status of pension funds—which have grown substantially over time across the globe. The economic impact of the pension funds is related to the size of those assets relative to the total capital market. While it is unlikely that changes in pension distributions would have critical impacts on the overall capital markets, as pension funds grow and then are withdrawn, there might be some adjustments in capital markets.

III. Nexus of Age-Demographic and Public Finances[8]

The changes in the age distribution of the Georgian population can have a number of serious repercussions for state and local government budgets. Some possible impacts on public budgets that have been identified in previous studies are:

1. The changing age distribution signals a potential change in popular demand for certain public services and financing mechanisms (taxes);

2. A growing elderly population is associated with changes in consumption patterns, which – in turn – will affect the revenues raised by state and local governments;

3. Many local governments grant property tax credits and exemptions to elderly homeowners, reducing the revenues raised by the property tax, and, as the population continues to age, this revenue cost grows;

4. State government individual income tax bases tend to exempt part of the income of retirees including earned income, pension income, and social security, thereby reducing the revenue take from the income tax;

5. The types of public expenditures demanded by the elderly population may differ from those of other age groups, and, as a result, governments must adjust their public service mix.

A. Revenue Effects: Sales, Income and Property Taxes

To analyze the potential impact of the aging of the population on state finances, we need to look at the revenue side of the budget as well as the expenditure side. On the revenue side, we focus the interaction of the graying of the population on the individual income tax, sales tax, and property tax. For Georgia's state and local government budgets, these are very important sources of revenue. For the state, the income and sales tax are the most important revenue sources in terms of dollars - in FY2007, the individual income tax brought in 49 percent of all tax revenue and the sales tax 34 percent.

The aging demographic interacts with revenues in at least two general ways. First, the income of the elderly is typically weighed more heavily in the form of pension and capital income than in terms of wage and salary income. Our federal and

[8] This section relies heavily on Landers et al (2005).

state tax systems tax pensions and capital income less than wage and salary income—so as those forms of income grow with the aging population, the income tax base contracts. There is also some evidence that individuals spend less from their savings (pension and capital income) than from wage and salary income (Hawkins and Wallace, 2006). This behavior would reduce the sales tax base as would the fact that the elderly consume different types of goods—many of which are not subject to sales tax (health and medical related goods and various services). Finally, the elderly consume different types of housing, and they may move from a taxable residence to a non-profit community such as a nursing home or an extended care facility. This movement could reduce the overall property tax base if non-profit housing options increased at the expense of other residential or commercial property.

The second general way that the aging trend affects revenues is through the tax code itself. The federal, state and local governments in the U.S. do afford the elderly certain tax breaks.[9] Tax breaks of any type are known as "tax expenditures" because they are taxes that are forgone to the federal, state and local budgets. As the number of elderly grows over time, the value of the tax breaks for the elderly grows in terms of lost revenue. We focus on these legislated tax expenditures and the growing elderly population with respect to income, sales, and property taxes below.

1. Individual Income Tax

Over the last twenty five years, many states have adjusted their income tax structures in such a way that the effective income tax rate on retirees (or elderly, as defined by each state) is substantially lower than the effective state income tax rate on non-retirees. Edwards and Wallace (2004) report that in the U.S. in 1999, the effective marginal tax rate faced by the elderly was about one percent and that by the general population of non-elderly was 2.6 percent. This gap, or wedge, in tax rates comes largely from exemptions for the elderly (exemption of social security income and pension income in most cases from state income tax bases). In fact, all states that levy an individual income tax offer special tax relief to the elderly by excluding some amount of retirement or other income or by providing additional deductions or credits

[9] There are also preferences for other groups such as children, but we do not focus on those in this report.

for their older taxpayers. Some states have a maximum income or threshold (a means-test) for some or all of their relief so that they might afford more relief to lower income elderly. Thirty-nine states exempt some or all social security income from taxation, while exemption of pension income from taxation varies widely across the states, but most states offer some form of relief (Wisconsin Legislative Fiscal Bureau 2007). Nineteen states offer an additional credit for elderly/disabled.[10]

Georgia's individual income tax is one of the more generous state individual income tax structures in terms of retirement income exclusions for the elderly, although a number of states do allow a blanket exemption of all retirement income. Georgia currently allows an exemption of up to $30,000 of income (a combination of a $4,000 cap on earned and no cap on unearned income) per retired tax filer, and in addition, all social security income is exempt. The state exemption increases to $35,000 for taxable years beginning on or after January 1, 2008. The revenue cost of the exclusion will increase over time as more and more Georgia tax filers are eligible for the exemption. There has also been discussion of lifting the cap on earned income and of creating a 100 percent exemption for elderly.

We project the revenue loss associated with the exemption of non-social security income separately from that for social security income and report the tax expenditures associated with this part of the tax law in Georgia. These estimates are referred to as "tax expenditures" because they are costs to the state in the form of foregone tax revenue. Tax expenditures are not necessarily bad (nor good), but simply reflect tax policy decisions that have been made and that reduce the potential revenue from any particular source. The income tax system in Georgia (and all other states) contains a variety of tax expenditures—the deduction for dependents, certain types of savings, mortgage interest, etc. Here we focus on the exemption for "retirees."

If we somewhat arbitrarily take 1990 tax law as our starting point, we can trace out the revenue implications of tax exemption afforded retirees in Georgia by providing an annual estimate of the cost of the retiree exemption for the state income tax. From the starting point of 1990 law, we add the additional tax expenditure

[10] Additional detail is available from Edwards and Wallace, 2004 and Federation of Tax Administrators 2007: http://www.taxadmin.org/fta/rate/tax_stru.html.

estimates associated with legislated increases in the retiree exemption. The first major change was in 1994, when the exemption was increased to $11,000 and the last major change is the 2005 legislation increasing the exemption to $35,000 by 2008. The results of this exercise are reported in Table 2 below. We use data from the Georgia Department of Revenue to estimate the baseline of retired taxpayers and assume a steady growth rate in elderly tax filers that is consistent with the Census projections of Georgians 65 and older. As the exemption level increases, our estimates from our Georgia micro-simulation model suggest that a small percentage of filers would not have enough income to make use of the entire exemption, and that is accounted for in our estimates. This is most important in the major increases in the retiree exemption that come on-line in 2006, when the exemption jumps from $15,000 to $25,000 and then to $35,000 in 2008.

As shown in Table 2, the revenue cost of the retiree income exemption has grown steadily because of statutory changes which have increased the exemption level as well as the growth in the number of retirees likely to qualify for the exemptions. In 2007, the aggregate value of the elderly income exemption is about $130 million. This revenue cost is small relative to income tax collections—approximately 1.5. The growth rate in this exemption jumps between 2006 and 2007 and 2008 as the new, higher exemption levels kick-in. Between 2006 and 2007, the exemption increases in cost by 31 percent and then by 21 percent from 2007 to 2008. While still small relative to total income tax revenue, by 2008, the total value of the elderly exemptions could reach about 1.7 percent of projected income tax revenue.

The social security exemption tax expenditure is calculated using Georgia individual income tax files. The tax expenditure for that exemption is approximately $86 million in 2006. The combined impact of the elderly income exemptions is approximately 2.65 percent of income tax revenue by 2008.

TABLE 2. TAX EXPENDITURE OF ELDERLY INCOME TAX EXEMPTION ($)

	2000	2001	2002	2003	2004	2005
Additional Tax Expenditure by Legislated Change 1994 Law increasing exemption to $11,000 for 1994 and to $12,000 for 1995 and thereafter	7,927,235	8,125,415	8,328,551	8,536,765	8,750,184	8,968,938
1998 Law increasing exemption to $13,000	7,927,235	8,125,415	8,328,551	8,536,765	8,750,184	8,968,938
2000 Law increasing exemption to $13,500 for 2001 and to $14,000 for 2002 and thereafter		3,656,437	7,495,696	7,683,088	7,875,165	8.072,044
2002 law increasing exemption to $14,500 for 2002 and to $15,000 for 2003 and thereafter			3,747,848	7,683,088	7,875,165	8.07,044
2005 Law increasing exemption to $25,000 for 2006 to $30,000 for 2007, and to $35,0000 for 2008 and thereafter						
Total tax expenditure for retiree exemptions made since 1990	15,854,469	19,907,268	27,900,645	32,439,705	33,350,698	34,081,965

	2006	2007	2008	2009	2010
Additional Tax Expenditure by Legislated Change 1994 Law increasing exemption to $11,000 for 1994 and to $12,000 for 1995 and thereafter	9,193,162	9,422,991	9,658,566	9,900,030	10,147,530
1998 Law increasing exemption to $13,000	9,193,162	9,422,991	9,658,566	9,900,030	10,147,530
2000 Law increasing exemption to $13,500 for 2001 and to $14,000 for 2002 and thereafter	8,273,846	8,480,692	8,692,709	8,910,027	9,132,777
2002 law increasing exemption to $14,500 for 2002 and to $15,000 for 2003 and thereafter	8,273,846	8,480,692	8,692,709	8,910,027	9,132,777
2005 Law increasing exemption to $25,000 for 2006 to $30,000 for 2007, and to $35,0000 for 2008 and thereafter	64,352,132	94,229,908	120,732,069	123,750,371	126,844,130
Total tax expenditure for retiree exemptions made since 1990	99,286,147	130,037,273	157,434,619	161,370,484	165,404,746

Source: Based on data from Georgia Income Tax Model (Fiscal Research Center).

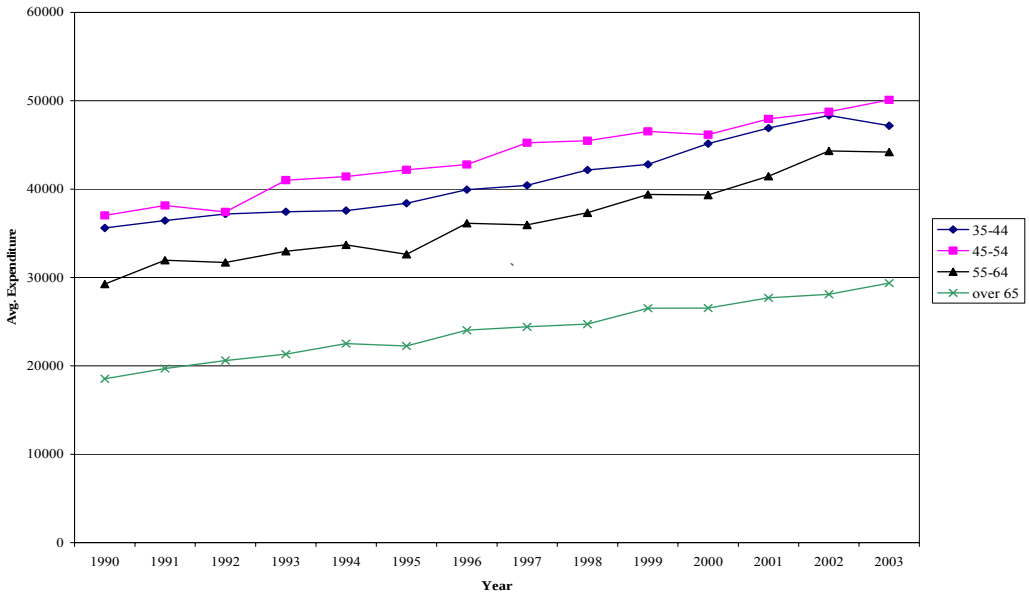
2. Sales Tax

A growing elderly population is associated with changes in consumption patterns which will, in turn, affect the revenues raised by state and local governments. Details on consumption pattern changes are discussed below. To some extent, these changes in consumption patterns are associated with the graying of America. Many of the goods demanded by older citizens are not included in state and local government sales tax bases. Thus, as the country ages and naturally shifts its consumption focus away from taxable goods toward non-taxables, the growth of the sales tax base is decreased, again reducing the monies available for public expenditures.

The U.S. Bureau of Labor Statistics' Consumer Expenditure Survey (CES) tallies consumer expenditure by type and also by various demographic characteristics, including age. These data show that the elderly consume quite a different "market basket" of goods than the non-elderly. In particular, the elderly consume more services (relative to total expenditures), and, not surprisingly, more health and medical related goods and services. In most states, services and health-medical expenditures are not subject to sales tax. Georgia is no exception in that it exempts the consumption of most of these goods and services from sales tax.

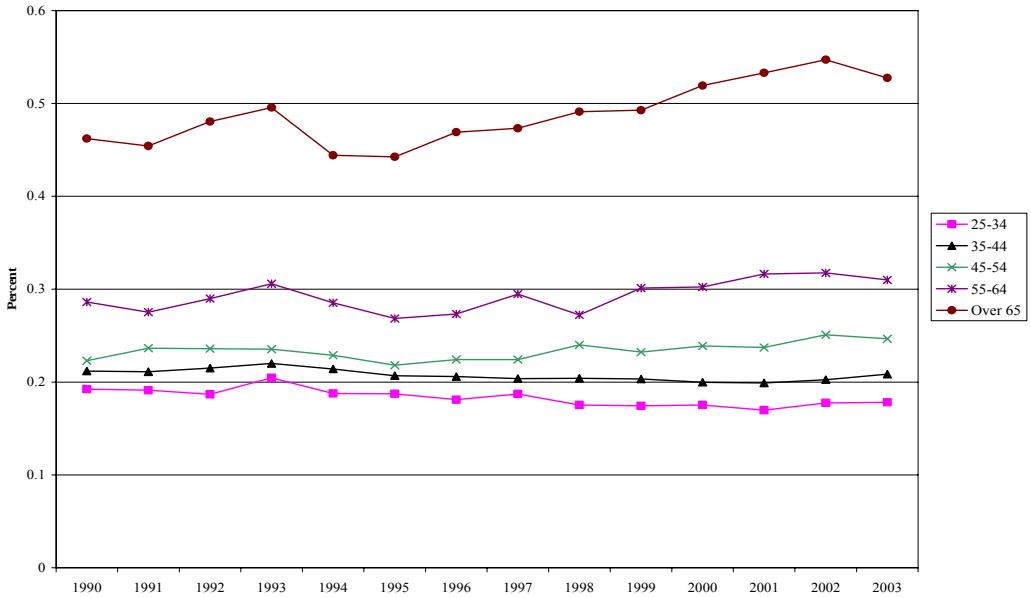
The average level of expenditures by age group is summarized in Figure 3. As seen there, the elderly consume relatively less than other age groups, although the growth rate in average annual consumption has been substantial and over the last 13 years equals the average annual growth in expenditures of the 55-64 age group (more than one percentage point higher than the other two age groups in Figure 3). While level of expenditures is important for sales tax revenue growth, the composition of income is at least as important. Figure 4 shows the growth in food at home and medical and health expenditures as a share of total expenditures by age group. The numerator includes goods that are largely untaxed in Georgia, so a growth in the ratio suggests a relative decline in the sales tax base. It is obvious that the elderly consume more of these types of goods although the growth rate has stabilized over the last three years.

FIGURE 3. AVERAGE EXPENDITURES BY AGE GROUP



Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey tabulations by authors.

FIGURE 4. FOOD AT HOME AND HEALTHCARE EXPENDITURES/TOTAL EXPENDITURES



Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey tabulations by authors.

Mullins and Wallace (1996) use the CES to estimate the impact of changes in demographics including changes in the proportion of the population over 65 on consumption of broad categories of goods. The results of their regression analysis are used to develop "demographic elasticities of consumption." These are measures of the percent change in consumption by type of good divided by the percent change in a particular demographic - like the percent of the population age 65 and older. They use these results to forecast the impact, by state, of demographics on state sales tax bases. In that analysis, the elasticities of consumption for personal services, household services, and medical and health services are positively related to the percent of population over age 65. Most other categories of expenditure are found to be negatively related to population over 65.[11]

We use the elasticities of consumption by age group to analyze the impacts for Georgia and find that the aging dynamic coupled with the current sales tax base (which largely exempts services) eats into growth of the sales tax, holding all other demographics constant. Of the twelve consumption groups analyzed, apparel is one taxable that shows very small growth (less than 0.002 percent over the next 5 years). For all other taxable categories of goods analyzed in the study (food away from home, utilities, alcohol, and tobacco), the elderly will consume less and less according to the results of the study, which will dampen the sales tax base very slightly (less than 0.02 percentage points off of the growth of the sales tax base in the absence of the aging demographic). This means that if sales tax revenue were to grow at seven percent annually (a weighted average of the annual growth in sales tax revenue for the last three years), and if the aging demographic did not exist (i.e., the elderly grew at the same rate as they did from 1990 to 2000 and the difference in population growth came from those under age 65), then sales tax revenue could grow by 7.02 percent per year as opposed to 7.0 percent per year. This is not a large revenue impact, but represents about $12 million in 2007. This impact is not a tax expenditure since it exists not due to an exemption specific to the elderly, but rather reflects the fact that the elderly consume differently.

[11] Other consumption categories include: food at home, food away from home, utilities, entertainment, apparel, alcohol, tobacco, and gas/motor oil. Housing (shelter) was excluded.

3. Property Tax

State and local governments allow special property tax exemptions to elderly individuals. Individuals 65 years of age or over may claim a $4,000 exemption from all state and county ad valorem taxes if the income of that person and his/her spouse does not exceed $10,000 for the prior year. The $10,000 income cap does not include "income from retirement sources, pensions, and disability income up to the maximum amount allowed to be paid to an individual and his spouse under the federal Social Security Act (Georgia Code 48-5-47, http://www.etax.dor.ga.gov/ptd/adm/taxguide/exempt/homestead.shtml).[12] Local governments may, with approval by the General Assembly, increase the homestead exemption (or may disallow any homestead exemption), and many local jurisdictions have increased exemptions for the elderly. For example, in Cobb County those over 62 pay no school property tax.

Over the last several years, there has been an increase in the number and value of property tax exemptions afforded the elderly. Most of these are means-tested (for details on exemptions by county, see http://www.etax.dor.ga.gov/ptd/county/index.shtml). The annual property tax digest publishes the value of the various exemptions by local jurisdiction and, therefore, gives a ready tax expenditure of these exemptions. In 2003, homestead exemptions for the aged totaled roughly $20 billion. If we apply the state millage rate of 0.25 mills to the state level exemptions, a school millage rate of 15 mills to the exemptions reported by school district and a millage rate of 7 for all other jurisdictions, these exemptions represent a loss of revenue of approximately $203 million to state and local governments in Georgia. This represents a small percentage of the $6 billion property tax take. There has been some growth in the number of homestead exemptions afforded the elderly by individual counties. From 2000 to 2003, the growth in the value of exemptions was slightly over 25 percent.

B. Fiscal Capacity Comparison

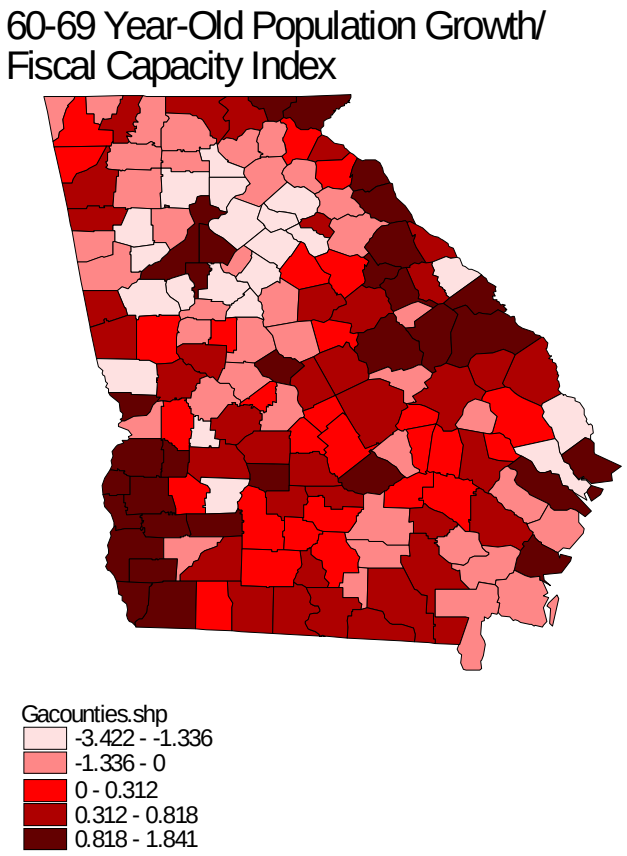
Fiscal capacity is a measure of the ability of a jurisdiction to raise revenue, given the average tax rates used by similar jurisdictions. So, a fiscal capacity

[12] In 2005, this maximum is $46,536.

measure takes the tax law as given and basically answers the question "if all jurisdictions levied the same tax rates, how much revenue could they raise given the economic base and demographic structure of the jurisdiction?" Counties with a fiscal capacity index of one or greater are able to generate more revenue than the average county (they do not necessarily generate more, but they are able to). As counties are going through tremendous changes in terms of the age distribution of their populations, those with higher fiscal capacity are in a better position (all else equal) to deal with the expenditure pressures of these changes.

We construct an index that relates the projected change in population to the fiscal capacity as follows. We divide the fiscal capacity of each county by the average fiscal capacity for all counties based on 2003 data. If the ratio equals one for a county, then that county has the statewide average fiscal capacity. If the ratio is greater than one, the county has higher than average fiscal capacity and if it is less than one, lower than average fiscal capacity. We also normalize the change in population as follows. For each county, we compute the change in population from 2000 to 2010 (for two age groups: 65-69 and 85 and older) and divide this change by the average change for all counties. If a county has a value greater than one, then the number of elderly in that county (either the 65-69 group and/or the 85 and older group) is growing faster than the average Georgia county. Finally, we compare the fiscal capacity index to the population growth index by subtracting the population growth index from the capacity index. Counties with a negative number have less fiscal capacity (relative to the rest of the state) given its population growth than other counties. Counties with positive and larger positive numbers are in a better fiscal position to deal with their expanding elderly populations. The fiscal capacity minus population growth index is reported in Figure 5 for the two age group breakdowns.

FIGURE 5. FISCAL CAPACITY AND POPULATION GROWTH



To conclude this section, we should point out that the total revenue impacts of the growing elderly population are difficult to measure. However, the data for the most available tax expenditures (income tax and property tax) suggest that the aging demographic has eaten into the income tax base by about 2.6 percentage points and the property tax by about five percent. Deloitte (2007) demonstrates that the income and payroll taxes paid by those 60 and older are, on average, less than half of those paid for those in their 40s. Other tax expenditures that are available to companies or individuals in general are at least as large, (for example, $750 million or more for the food exemption and $150 million for various corporate tax preferences) (Edmiston et al. 2002). However, the value of the elderly exemptions will grow over time more quickly than general revenue, due simply to the age-demographic trends. It is important, therefore, for the State to consider the long-term viability of all of the tax

expenditures in the system in order to do service to those Georgians in need during the next decade.

C. Expenditures

The expenditure side of the budget is also susceptible to changes in the age distribution. As noted earlier, there has been some concern that the elderly would vote for different kinds of public expenditure, due to preferences that they have. Our reading of the literature is that it may be true that elderly vote for less education spending, but it may simply be reflective of how they grew up. There will always be a difference of opinion regarding public expenditure, and over time, we tend to notice a higher demand for expenditures as income grows, and as other factors develop.

More to the point, the elderly need different types of public goods, namely health and transportation. The health status of the elderly and the number of the elderly are critical factors in determining the need for public spending in the health area. A snapshot of the elderly demographic change and health status is provided here. Tables 3 and 4 portray the elderly population and chronic health status, using Georgia population projections from the U.S. Census. The number of Georgians 65 and over with chronic conditions, as well as those living at 225 percent of the federal poverty level (FPL),[13] is expected to more than double between 2000 and 2025. These projections suggest that health related expenditures will face significant upward pressure, particularly Medicaid in the public sector. Cooney and Landers (1999) find that the rates of chronic illness and limitations on instrumental activities of daily living (IADLs) are likely to remain relatively constant, so increases in medical expenditures will come largely from the increases in the number of elderly in our population.

[13] 225 percent FPL is the approximate income level at which elderly individuals may qualify for Medicaid nursing facility care or certain Medicaid home and community-based waiver programs.

TABLE 3. NUMBER OF GEORGIANS 65 AND OLDER

	Number of Georgians 65 and Older	Number of Georgians 65 and Older with Chronic Conditions
2000	779,000	545,300
2005	852,000	596,400
2025	1,668,000	1,167,600

Source: U.S. Census and projections for chronic conditions based on National Health Interview Survey Data Files 1994 Disability Supplement.

TABLE 4. NUMBER OF GEORGIANS 65 AND OLDER AT 225 PERCENT FPL

2000	360,677
2005	394,476
2025	772,284

Source: U.S. Census and projections for chronic conditions based on National Health Interview Survey Data Files 1994 Disability Supplement.

Medicaid eligibility is driven by income and assets—not simply one's medical condition. Using Medicaid eligibility regulations and projections of the aging population in Georgia, Landers et al. (2005) forecasted the number of elderly Georgians eligible for medical assistance for years 2000 to 2025 (Table 5). Between 2000 and 2025, the number of individuals over 65 with the most intensive care needs (those with chronic conditions, limitations on IADLs) will more than double, while those with general chronic conditions will also double and top one million individuals. The expected growth in the number of those eligible for a variety of services (those with income at 225 percent of the FPL) will more than double. These estimates suggest that caring for the elderly using the inventory of health care services could double in cost if there are no innovations or increased efficiencies in the system. The Governmental Accounting Standards Board (GASB) has taken a step to force state governments to acknowledge these increases in health cost by establishing new accounting rules. These accounting rules, while not strictly enforceable by GASB, require "governments to recognize the costs of benefits other than pensions that have been promised to employees after they retire" (Snell, 2007 p. 1). Larger governments (those with annual revenue greater than $100 million) have to report those costs on annual financial statements (beginning in FY2008).

TABLE 5. GEORGIANS AT INCOME LEVELS FOR FEDERAL PROGRAMS

	65+ Georgia Population	65+ up to 75% FPL[1]	65+ up to 100% FPL[2]	65+ up to 225% FPL[3]
2000	779,000	33,000[14]	109,060	360,677
2005	852,000	36,092	119,280	394,476
2010	973,302	41,231	136,262	450,639
2015	1,175,000	49,775	164,500	544,025
2020	1,404,317	59,490	196,604	650,199
2025	1,668,000	70,660	233,520	772,284

Source: U.S. Census Bureau, Current Population Survey, 2000-2002 Annual Social and Economic Supplements. Special tabulation by Dr. Pat Ketsche (GSU) for 225 percent FPL. Seventy-five percent FPL base projections are from http://www.census.gov/hhes/poverty/ resized%20age65%20pov%20ratios %20by%20state%2099-01.xls.

Comments:
(1) 75 percent (74.6) FPL = income at which one qualifies for SSI Medicaid ($579/mo.).
(2) 225 percent FPL (or 3x SSI Medicaid) = income at which one can qualify for Medicaid nursing facility care or waivers ($1,737/mo.).

Notes:
[1.] SSI Medicaid eligibility.
[2.] FPL as of FFY03. This is the level at which Qualified Medicare Beneficiaries (QMB) are eligible for premium and co-pay assistance.
[3.] Nursing facility and waiver eligibility. SOURCE: U.S. Census Bureau, Department of Labor, Current Population Survey, 2000-2002 Annual Social and Economic Supplements. Special tabulation by Dr. Pat Ketsche.

Other Public Expenditures

Most of the discussion of the impact of an increasing elderly population has focused on health care. But expenditures on other services could also change, either because the elderly will demand more of particular services or resist spending on some services such as education. Will the elderly demand increased police protection, recreation facilities, and adult education programs? Even if expenditures for these services don't increase, the nature of the services could change. For example, an increased elderly population my lead to an increase in consumer fraud, with implications for the type of police work required. Recreation facilities will focus on less active sports. Transportation needs change as the elderly may require different modes of transit, and given the expected increase the number of elderly, there is simply a need for more services in this area.

[14] http://www.census.gov/hhes/poverty/resized%20age65%20pov%20ratios%20by%20state% 2099-01.xls.

Some empirical work concludes that the elderly are in general opposed to spending increases on public services that do not directly benefit them—such as education (Poterba, 1997, Ponza, et al, 1988). Others argue that there are other factors involved, and the recent phenomenon of elderly not supporting increased education funding may be due to the fact that individuals born early in the baby boom simply spend less (this would be people born close to the Great Depression). However, as long as succeeding generations are placing greater emphasis on education, it will be the case that older persons will want less education spending then younger voters. There has been little empirical study of elderly voting patterns on other types of public expenditures.

While it is beyond the scope of this report to consider all of the changes in expenditure related demands, it is obvious that the face of public expenditures will be quite different in 2025 due to the elderly demographic. State and local governments will need to be proactive in making these adjustments.

IV. Summary

The graying of Georgia will have an effect on the overall economy, particularly the labor force, and on tax revenue and on the level, composition, and nature of public services. Governments need to determine how an aging population will affect them and plan carefully for the changes that are coming. There are a variety of agencies that would be involved in such planning, which could make the process even more complicated.

In this report, we presented some highlights regarding the interaction of the aging demographic, the economic base, and state and local public finances. Those trends include:

- Pressure on the work force in terms of a loss of experience and demand for different types of labor;
- Changes in consumption patterns which could call for changes in production, investment, and labor;
- Demands for different types of housing—we are not sure how quickly the elderly will choose to move out of their "family homes" but there may be an increased demand for smaller homes and/or other types of housing arrangements. These changes in demand can affect the housing markets, but it is not obvious in which direction;
- Tax expenditures afforded the elderly which tend reduce the growth of major revenue sources such as income, sales, and property taxes;
- Pressure for public services such as health care which reduce the discretionary component of the state's budget – we should also expect a continued change in demand for other public services like recreation, transportation, education, and police services.

Georgia is not alone in facing these economic and fiscal pressures; every state should expect a similar list of future pressures. Georgia is unique, however, in terms of the magnitude of the growth in the elderly. While Georgia currently has a relatively young population, because of the increase in its population, the state will deal with a somewhat larger absolute growth in the elderly.

As noted earlier, there have been some proactive policies established to begin to address the labor force issue. However it does not appear that an overall inventory of the labor force demographic has been undertaken in state or local government, or

in the private sector. Census data can help us understand the magnitude of the overall looming retirement, but it would be much more informative to know where retirement is coming, by sector, skill level, management level, and so forth. In addition, the state might consider becoming more active as a policy leader in the case of stretching out the time to retirement.

With respect to the revenue and expenditure issues, Georgia faces pressures similar to other states. The state and local governments have significantly expanded their income and property tax exemptions, which yields a revenue loss, and will dampen future tax collections. The general nature of the sales tax and consumption of the elderly suggests that sales tax revenue growth will also be dampened in the future. Expenditures, particularly for health care (Medicaid) will continue to increase over time. In the face of these pressures, why would the state continue to increase the value of certain exemptions? One reason maybe that the elderly provide additional economic development. If the tax reductions afforded retirees increases migration of retirees who on net spend more than they ask of the government, these tax policies could increase the overall tax base. We should, then, develop a cost-benefit kind of analysis to determine the net impact of tax reductions as an economic development tool. This is a very tough type of analysis to do. We would need detailed information on the types of spending and income for various groups of retirees (recent migrants, older migrants, those leaving the state), and we would need to determine the public services consumed by these groups. Such data are not readily available, and it may be that the assumptions that had to be made to do this type of cost-benefit are unpalatable.

There are a couple of alternative ways to analyze a "cost-benefit" that are less detailed, and while not definitive, may offer some guidance regarding the net impact of the state's fiscal interaction with the aging demographic. The U.S. Census reports migrants among states by income level and age. Rork (2007) and Landers et al. (2005) note that the mean income of elderly migrants into Georgia is less than those who leave Georgia. Also, Georgia is a net importer of elderly from Florida, a state without an income tax. These general statistics suggest that the state may be attracting retirees and elderly who will not add to the income tax net.

Another way to judge the impact of the elderly flows into the state on revenues would be a very detailed decomposition of the changes in tax revenue (by type) over time. It may be possible to isolate the impact of the elderly flows, general economic growth, and other factors that affect the growth in taxes. However, this type of analysis itself can become complicated as there are many interactions in our economy. As we discussed early in this report, the growth in the number of elderly will affect the economy itself—which will affect the tax base.

While Georgia experiences these pressures and potential benefits from an increased elderly population, it is time to view state and local budgets over a longer time horizon. Incorporating the demographic changes that are expected in the state over a 10-year period (or longer) will enable the state and local governments to be more proactive in budgetary decisions in the short term. State and local governments in the U.S. and Georgia need to take a good, hard look at their revenue structure to ensure that it is structured in such a way that it is not overly susceptible to future demographic changes such as the graying of the U.S. population.

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